

SCALABLE TWO-STAGE VIRTUAL OUTPUT QUEUING SWITCH
AND METHOD OF OPERATION

ABSTRACT OF THE DISCLOSURE

5 A fixed-size data packet switch comprising: 1) N input ports
for receiving incoming fixed-size data packets at a first data rate
and outputting the fixed-size data packets at the first data rate;
2) N output ports for receiving fixed-size data packets at the
first data rate and outputting the fixed-size data packets at the
10 first data rate; and 3) a switch fabric interconnecting the N input
ports and the N output ports. The switch fabric comprises: a) N
input buffers for receiving incoming fixed-size data packets at the
first data rate and outputting the fixed-size data packets at a
second data rate equal to at least twice the first data rate; b) N
15 output buffers for receiving fixed-size data packets at the second
data rate and outputting the fixed-size data packets at the first
data rate; and c) a bufferless, non-blocking interconnecting
network for receiving from the N input buffers the fixed-size data
packets at the second data rate and transferring the fixed-size
20 data packets to the N output buffers at the second data rate.